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DESCRIPTIONS OF THE SEXUAL FORMS OF SOME SPECIES OF APHIIDAE

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Here follow the descriptions of the sexual forms of some of the aphid species described by the author in the Proceedings of the Biological Society of Washington, Vol. 46, pp. I-24.

Macrosiphum niwanista (Hottes)

Oviparous female.

Size and general color.—Average length from vertex to tip of anal plate 2.49. Individual specimens range from 2.39-255. Average width across the eyes .590. Head thorax and abdomen milk-white to cream in color. The white in this case is not due to pulverulent matter, in fact no pulverulence was noted on viviparous females taken during the summer of 1947. The following structures depart from the general body color: the apical portions of antennal segments III, IV and V and all of VI which are light dusky; the eyes, the apical portion of the rostrum, and the apical portion of the tibia are also dusky. The tarsi are dark brown to almost black and are very conspicuous, because of their sharp contrast with the rest of the body. The extreme tips of the cornicles are light dusky but at times this statement applies only to the rim of the cornicles.

Head and appendages.—The antennal segments have the following proportional lengths: III .528-.614 ave. .556, IV .614-.771 ave. 662, V .585.-642 ave. .610, VI .199-.285 ave. .239 + 1.21 —1.35. It will be noted that as in the viviparous females the fourth segment is longer than the third an unusual condition and that the fifth segment is also longer than the third, a condition which is rare enough to be noteworthy. There are no secondary sensoria. The antennal hair are sparce and about one half the width of the segment in length. The third and fourth antennal segments are lightly imbricated the fifth and sixth more so. The rostrum reaches the coxae of the metathoracic pair of legs.

The Thorax.—The hind tibiae are 2.12 long. The hind tarsi are .228 long. The sensoria on the hind tibiae are very small and for the most part round, they occupy the proximal third of the segment which is very little swollen. The tibial hair are sparce and very evenly spaced and rather coarse. In length these hair are about one half the width of the tibia and like all other hair found on this species sharp pointed.

Abdomen.—The cornicles are from .314-371 long and average .357. The cauda is from .214-257 long and has from three to four hair on a side. Its surface if very finely setulose.

Morphotype.—Oviparous female. Data associated with morphotype:

taken on *Mertensia sibirica,* Skyway, Colorado, Oct. 8, 1947. Deposited in the United States National Museum.

A few specimens of this species were taken on *Polygonatum commutatum* during the past summer. This represents a new host for the species.

Macrosiphum katonkae (Hottes)

Apterous male.

Size and general color.—Average length from vertex to tip of anal plate, 1.927. Head green with dusky brown on antennal tubercles and vertex. Thorax and abdomen dark green. First and second antennal segments dusky green. Base of third antennal segment dusky remainder of segment brown. Fourth, fifth and sixth antennal segments uniform brown. Femora of all legs greenish at base shading to brown with a tinge of green. Tibiae brown with apical portions darker. Cornicles dusky brown. Anal plate green with dusky markings. Cauda green with dusky margins, setulose surface brown. Gonapophyses dark brown.

Head and appendages.—Antennal segments with the following comparative lengths: III—.885, IV—.714, V—.614, VI—.171 +1.170. Secondary sensoria distributed as follows: III—39 irregularly arranged but more numerous on one side of segment and extending throughout the length of segment. IV—18. On this segment the sensoria are small, arranged in more or less of a regular row and extend throughout the length of the segment. V—The sensoria on this segment are limited to the apical two thirds of the segment, they are arranged in more or less of a regular row and number 16. Beak green with segments IV and V dusky, it extends just beyond the base of the coxae of the metathoracic pair of legs.

Thorax and appendages.—The male of this species is apterous. Hind tibiae 1.756. Hind tarsi .171.

Abdomen.—Cornicles .642 imbricated and reticulated as in viviparous females, not as sturdy or as outwardly curved as in females. Gonapophyses finger-like with numerous hair. Cauda .285 not constricted, with three hair on a side.

Oviparous female.

Length from vertex to tip of anal plate 2.427-2.784. Width across eyes .571. Color similar to that of apterous viviparous female. Antennae with the following proportional lengtms III—.956, IV—.698, V—.642, VI—.171 +1.071. Secondary sensoria confined to the third antennal segment, numbering from 13-16. The sensoria vary greatly in size and shape and are limited to the basal half of the segment. The beak extends beyond the coxae of the mesothoracic pair of legs but fails to reach the coxae of the metathoracic pair.

Thorax and abdomen.—Length of hind tibiae 2.213-2.365. The basal half of the hind tibia is much swollen and has many sensoria which are irregular in size and shape. Hind tarsi .171. The cornicles are 1.428 long and typical of the species. The cauda is from .371-.456 long, it is not constricted and has three hairs on one side and four hairs on the other.

Morphotype.—Male. With the following data: Colorado National Monument near Glade Park, Colorado. Host *Aster laevis.* Oct. 1, 1947. Deposited in the United States National Museum.

Morphotype.—Oviparous female. Same data as male. Deposited in United States National Museum.

This species as pointed out by Dr. Knowlton is allied with the species he described and named *Macrosiphum escalantis.* In *Macrosiphum escalantis* the male is alate. All forms of *Macrosiphum katonkae* are larger than corresponding forms of *Macrosiphum escalantis.*

Macrosiphum wasintae (Hottes)

Alate male.

Size and general color.—Length from vertex to tip of anal plate 1.356. Head and thorax dusky brown. Head darker anteriorly and thorax darker dorsally. Abdomen green with four broken brownish bands extending from the pleura towards the middle. These bands are anterior to the cornicles. Abdomen posterior to the cornicles brownish. Cornicles, cauda, anal plate and gonapophyses brown. Antennae with the exception of I, II, and the base of III dark brown. Tibiae brown with the apical portions darker.

Head and appendages.—Average width of head across eyes .499. Antennal segments with the following proportional lengths: III—.756, IV—.714, V—.771, VI—.214 + 1.11. Secondary sensoria distributed as follows: III—67 scattered over entire surface; IV—30 arranged as on III; V—30 confined more or less to one side of segment. The beak extends to the coxae of the metathoracic pair of legs. The fourth and fifth segments of the beak are as long as the second segment of the tarsi.

Thorax and appendages.—Veins of wings dark brown bordered with fuscous. Stigma long and narrow, (that of morphotype not typical) tapering to a point. Tibiae brownish with apical portions darker. Hind tibiae from 1.856-2.384 long. Hind tarsi .157 long.

Abdomen.—Cornicles from .399-.542 long, dusky brown, shaped as in females. Cauda dusky brown .171 long with four hair on a side. Gonapophyses almost triangular with many hair.

Oviparous female.

Size and general color.—Length from vertex to tip of anal plate 1.99-2.17. In color as in apterous viviparous female, also buff, coral, brown and light red. Head and appendages.—Antennal segments with the following comparative lengths: III—.643, —.742 ave. .688, IV—.614-.685 ave. .647, V—.442-642 ave. .566, VI—.171-.214 ave. .199, +.742-.828 ave. .813 Secondary sensoria limited to III varying from 1-5 most common number 3

Thorax.—Hind tibiae varying from 1.856-2.384. Basal third of tibia with sensoria and much swollen.

Abdomen.—Cornicles varying from .449-.60 in length. The form of the cornicles is similar to the form of the cornicles of the viviparous females. As a rule the cornicles are milk-white in color but some have the cornicles more or less brown. The cauda is from .171-.214 long average length .192. Posterior to the cornicles the abdomen is much narrowed and elongated.

Morphotype.—Alate male. Data associated with morphotype: Skyway. Colorado Oct. 3, 1947. Host *Dasyphora fruticosa.* Deposited in United States National Museum.

Morphotype.—Apterous oviparous female same data as for morphotipic male. Deposited in United States National Museum. Paramorphotypes

in collection of author same data as morphotypes also taken on Sept. 22, 1947.

The alate form of this species has not been taken.

Kakimia takalus (Hottes)

Oviparous female.

Size and general color.—Length from vertex to tip of anal plate 1.71-2,242 ave. 1.999. Color uniform light yellowish-green. Appendages as in apterous viviparous female.

Head and appendages.—Width across eyes .4284-.499 ave, .461. Comparative lengths of antennal segments as follows: III—.456-.571 ave. .499, IV—.285-.342 ave. .313, V—.199-.288 ave. .208, VI—.085 +.357-428 ave. .385. Secondary sensoria only slightly peg-like, confined to third segment, irregularly arranged on basal half of segment and with a tendency to be confined to one side. The sensoria are irregular in size and number from 8-10. The antennal segments from III to VI get progressively darker especially the tips of segments. Segment VI is dusky brown. The beak extends just beyond the coxae of the metathoracic pair of legs. The fourth and fifth segments are dusky brown.

Thorax and appendages.—Hind tibiae 1.075-1.171 ave. 1.128. The basal half of the tibia is swollen and provided with sensoria. Hind tarsi .0785-.0856. Like the base of the sixth antennal segment they are conspicuously short. The first segment of the tarsus is recessed within a depression at the apex of the tibia, this shortens the apparent length of the tarsus.

Abdomen.—Cornicles varying in length from .399-.428 similar in form to those of viviparous forms. Cauda about .218 long with three hairs on a side. The cauda of this form is not as slender and thin as the cauda of the apterous viviparous female. Body hair long and sparce slightly knobbed at the tip. Morphotype. Apterous oviparous female. Data associated with morphotype: Host *Gilia aggregata.* Taken in Unaweep Canyon about fifteen miles from Whitewater, Colorado. Sept. 26, 1947. Deposited in United States National Museum. Three paramorphotype slides in collection of author.